

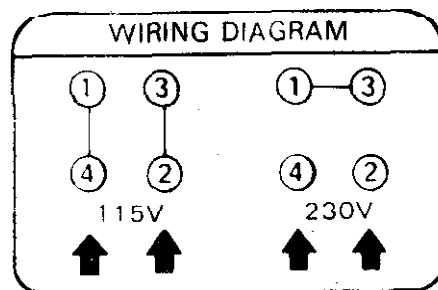
SKU# 30697

DRILL PRESS

INSTRUCTIONS

MANUAL

T-7 2 6
T-5 8 3
T-5 8 6
T-1 4 9



HARBOR FREIGHT TOOLS, INC.

3 9 4 1 MISSION OAKS BOULEVARD
CAMARILLO, CA 9 3 0 1 1

1 — 8 0 0 — 4 4 4 — 3 5 3 3

MADE IN CHINA

SAFETY PRECAUTIONS FOR DRILL PRESS.

Environment:

- a. Keep work area uncluttered and well-lit all visitors (children especially) should be kept out of area.
- b. Power tools should be used in dry areas only. When using tool outdoors, use proper extension cord.

Attention:

- a. Do not wear loose clothing or jewelry. They can get caught in moving parts !
- b. Safety glasses should be worn when operating power tool.
- c. If cutting operation is dusty, mask should be worn.
- d. In changing the speed you have to turn off the switch and wait until the machine completely stops.
- e. Take off the chuck key before starting the motor.
- f. Never use your hand to hold on the object while drilling. Always screw the object tight on the working table or use the drill press vise to prevent accident injury.
- g. Keep off your hand from the drill bit while drilling.
- h. Wear protective eye goggles when operating.

Operation of tools:

- a. Be sure switch is off when plugging in.
- b. Use the right tool for the job. Don't force the tool. It will only harm it and possibly you.
- c. Keep proper footing and balance at all times.
- d. Keep hands away from cutting area.
- e. Guards should be in place and in working order. Remove adjusting keys, wrenches before turning on.

General Guidelines:

- a. Disconnect tools when not in use. Take good care of power tools to assure safe performance.
- b. Do not carry tool by cord or pull on cord to disconnect tool.
- c. Use clamps or vise to hold work-it keeps both of your hands free.
- d. Store tools in a dry place-well out of the reach of children

Voltage Warning:

- a. Before connecting the tool to a power source (receptacle, outlet, etc.) be sure the supplied voltage is the same as the rating on the tool itself.
- b. A power source with voltage greater than that specified for the tool can result in serious injury to the user.
- c. If you're unsure of the voltage rating, do not use tool. Also using a power source with voltage less than that of the tool will harm the motor.

Grounding Instructions:

- a. While in use tools should be grounded to protect user from electric shock.
- b. If tools is equipped with approved three-conductor cord and three-prong grounding plug,

it fits a grounding receptacle when using an adapter to connect a three prong plug to a two prong receptacle. The adapter plug must be attached to a permanent ground.

Additional Safety Rules For Drill Presses:

- a. Be sure drill bit or cutting tool is securely locked in the chuck.
- b. Be sure chuck key is removed from the chuck before turning on power.
- c. Adjust the table or depth stop to avoid drilling into the table.
- d. Shut off the power, remove the drill bit or cutting tool, and clean the table before leaving the machine.
- e. Caution when practical. Use clamps or a vise to secure workpiece to keep the workpiece from rotating with the drill bit or cutting tool.

Warning: Do not Wear Gloves While Operating Drill Presses:

General Assembly Instructions

Screw column to base, assemble press head to column and tighten set screw with hex key. Attach handles chuck etc, upon completion of assembly. Drill press can be washed with kerosene to remove anti-rust oil applied at factory, then lubricating oil can be applied.

Round-Out Tolerance

For drilling operations require close tolerances. Place drill blank in the chuck and check round out with a dial indicator. If the round-out is not within desired tolerance, tap the chuck bottom with a rubber or leather mallet until you get the desired tolerance.

Operation Directions

The following directions will give the operator not familiar with the drill press operations a start. Use scrap material for practice to get the feel of the machine before attempting regular work.

- A **Correct Drilling Speeds:** Factors which determine the best speed to use in any drill press operation are based on the material being worked, size of hole, type of drill or other cutter and quality of cut desired. The smaller the drill, the greater the required RPM. In soft materials, the speed should be higher than in hard metals.
- B **Drilling in Metal:** Use clamps to hold the work when drilling in metal. The work should never be held in the bare hand. The lips of the drill may seize the work at any time especially when breaking through the stock. If the piece is whirled out of the operator's hand, he may be injured in any case. The drill will be broken when the work strikes the column.
The work must be clamped firmly while drilling any tilting, twisting or shifting results not only in a rough hole, but also increases drill breakage. For flat work, lay the piece on a wooden base and clamp it firmly down against the table to prevent it from turning. If the piece is of irregular shape and cannot be laid flat on the table it should be securely blocked and clamped.
- C **Boring in Wood Twist Drills:** Although intending for metal drilling may also be used for boring holes in wood, machine spur bits are generally preferred for working in wood. They cut a square bottom hole and are designed for removal of wood chips. Do not use hand bits which have a screw tip. At drill press speeds they turn into the wood so rapidly as to lift the work off the table and whirl it.

ASSEMBLY

1. Bench Drill Press

- a. Open the box and take out the base (No. 1), working table (No. 21) and column (No. 4). Place it on a flat surface, screw the column extension or the column to the base.
- b. Take out the head frame (No. 25) and assemble to the column (No. 4).
- c. Then use the allen key for tightening the set screw (No. 3).
- d. Assemble the handle (No. 43) and handle knob (No. 44) then screw it in the round head (No. 37).

(Please see diagram)

2. Floor Type Drill Press

- a. Open the box and take out the base (No. 1) and place it on a flat floor.
- b. Take out the column (No. 4) with table bracket (No. 6) and screw it on the base (No. 1).
- c. Take out the head frame (No. 25) and assemble to the column (No. 4).
- d. Then use the allen key for tightening the set screw (No. 3).
- e. Bring out the handle (No. 43) and handle head (No. 44) then screw it in the round head (No. 37).

(Please see diagram)

INSTALLATION

1. After installing the drill press, use the kerosene to wash out the anti-rust oil which had been coated in the factory. Then wipe it with lubricant oil.
2. Install your drill press in flat, sturdy floor or surface.
 - a. Check if the drill press is shaking when the motor is switch "ON"
 - b. Check the table bracket if it is moving smoothly up and down.
 - c. Check if the spindle shaft moves smoothly.

LUBRICATION

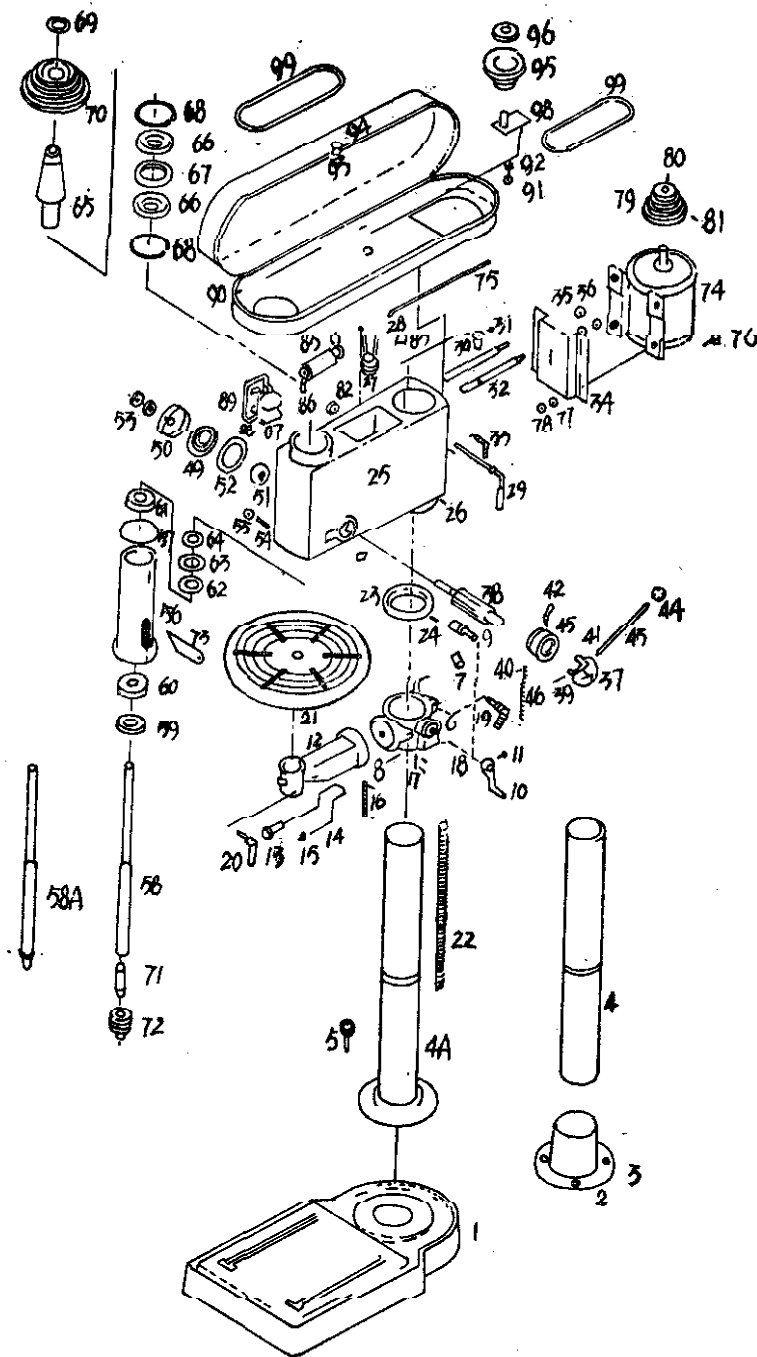
The ball bearings in the quill and V-belt pulley are grease-scaled for life. Pull quill down to maximum depth and oil moderately once every 3 months.
Slide bars. Remove motor-belt and push cam handle towards the motor. Oil right and left slide bars lightly every 2 months. Grease table bracket if cranking becomes difficult.

OPERATING TEST

- a. Open the belt cover and release the left & right side cam shaft set handle then move the belt handle backward until the belt has its right tension.
- b. The rotation speed of spindle shaft can be changed by referring to the chart list which is attached inside the belt cover, then you can push the belt handle to adjust the V-belt to its right tension and set back the two sides cam shaft set handle.
- c. Plug the electric socket to the outlet and press "ON" the switch then the spindle shaft will rotate clockwise.
- d. If the spindle shaft rotate counter-clockwise, it means the wiring connection are wrong, so turn off the switch and change the connection, after changing the spindle shaft will rotate clockwise.
- e. Screw tight the object on the working table while drilling, so as to prevent injuries and to have a precision workmanship.
- f. You can place any size of drill bit you desire in the chuck which is place below the spindle shaft.
- g. Plug the electric socket to the outlet and press "ON" the switch, then the spindle shaft will rotate freely.
- h. When drilling hold on the handle at the right side of the head frame and press downward.

MAINTENANCE

After using the machine you have to clean it completely and lubricate all sliding and moving parts.



Pour un service plus rapide veuillez indiquer le nom de la piece, le No du repere, le type de la machine, la date de fabrication et son numero

For rapid service, please give us the name of the parts, the number, the type of the machine, the manufacturing date and the serial number.

Parts List
(Pieces De rechange)

- | | |
|--|---|
| 1. Base (Socle) | 53-1. Hex Nut (Ecrrou) |
| 2. Extension Column (Pied De Colonne) | 54. Quill Set Screw (Vis) |
| 3. Set Screw (Vis De Reglage) | 55. Nut (Ecrrou) |
| 4. Column (Colonne) | 56. Quill (Fourreau Broche) |
| 5. Bolt (Vis De Fixation) | 57. Robber Washer (Rondelle Caoutchouc) |
| 6. Table Bracket (Support De Table) | 58. Spindle Shaft (Broche) |
| 7. Pinion Gear (Pignon De Monte Et Baisse) | 59. Ball Bearing (Roulement A Billes) |
| 8. Gear Shaft (Axe De Pignon) | 60. (Butee A Billes) |
| 9. Worm Pinion (Vis De Commande Monte Et Baisse) | 61. Ball Bearing (Roulement A Billes) |
| 10. Handle (Manivelle Monte Et Baisse) | 62. Washer (Rondelle) |
| 11. Set Bolt (Vis De Fixation) | 63. Nut Lock (Carter Ecrrou) |
| 12. Table Bracket (Bras Support De Table) | 64. Spindle Shaft Nut (Ecrrou De Broche) |
| 13. Lock Bolt (Vis De Fixation) | 65. Driving Sleeve (Manchon De Broche) |
| 14. Bracket Pin (Goujon) | 66. Ball Bearing (Roulement A Billes) |
| 15. Bracket Pin Nut (Ecrrou) | 67. Ring Spacer (Entretoise) |
| 16. Table Angle Scale (Vernier Angulaire) | 68. C-Spring (Circlips) |
| 17. Centering Scale (Index De Vernier) | 69. Pulley Set Nut (Ecrrou Poulie) |
| 18. Set Screw (Vis De Fixation) | 70. Spindle Pulley (Poulie De Broche) |
| 19. Column Lock Handle (Poignee De Blocage) | 71. Arbor (Queue De Montage Mandrin) |
| 20. Table Lock Handle (Poignee De Blocage Table) | 72. Chuck (Mandrin) |
| 21. Working Table (Round, Square) (Table) | 73. Wedge (Chasse-Cone) |
| 22. Rack (Cremailiere) | 74. Motor (Moteur) |
| 23. Rack Collar (Collier De Cremailiere) | 75. Motor Cable (Cables Moteur) |
| 24. Set Screw (Vis De Fixation) | 76. Bolt (Vis De Fixation Moteur) |
| 25. Head Frame (Tete) | 77. Washer (Rondelle) |
| 26. Set Screw (Vis De Fixation Tete) | 78. Nut (Ecrrou) |
| 27. Lamp Socket (Douille D'eclairage) | 79. Motor Pulley (Poulie Moteur) |
| 28. Lamp Screw (Vis De Fixation) | 80. Key (Clavette) |
| 29. Belt Handle (Poignee Tendeur Courroie) | 81. Set Screw (Vis De Fixation Poulie) |
| 30. Cam (Came Tendeur Courroie) | 82. Wire Insulator (Presse Etoupe) |
| 31. Cam Set Bolt (Vis De Fixation) | 83. Wire Clip (Plaque De Fixation) |
| 32. Cam Shaft (Barre Glissiere Moteur) | 84. Clip Screw (Vis De Fixation) |
| 32-1. Slide Bar (Tiges de tension) | 85. Electric Cord (Cable Electrique) |
| 33. Cam Shaft Set Handle (Levier De Blocage) | 86. Clip Terminal (Casse De Connection) |
| 34. Cam Plate (Embase Moteur) | 87. Switch (Interrupteur) |
| 35. Spring Washer (Rondelle Elastique) | 88. Switch Cover (Couvercle Interrupteur) |
| 36. Nut (Ecrrou) | 89. Switch Cover Screw (Vis De Fixation Interrupteur) |
| 37. Round Head (Corps De Cabestan) | 90. Belt Cover (Carter De Poulie) |
| 37-1. Bolt (Vis d'assemblage) | 91. Washer (Rondelle) |
| 37-2. Nut (Vis Fixation) | 92. Screw (Vis De Fixation) |
| 38. Cross Shaft (Arbre Cannele De Cabestan) | 93. Belt Cover Knob (Poignee Couvercle) |
| 39. Cross Shaft Set Pin (Goupille) | 94. Belt Cover Nut (Vis De Fixation Poignee) |
| 40. Scale Set Pin (Goupille) | 95. Center Pulley (Poulie Centrale) |
| 41. Scale (Doigt Repere) | 96. Ball Bearing (Roulement A Billes) |
| 42. Scale Set Handle (Levier De Blocage) | 97. Ring Spacer (Entretoise) |
| 43. Handle (Bras De Cabestan) | 98. Shaft For Center Pulley (Axe Poulie) |
| 44. Handle Head (Boule De Cabestan) | 99. V-Belt (Courroie Trapezoidale) |
| 45. Spindle Depth (Bague De Vernier) | 101. Washer (Rondelle) |
| 46. Scale (Vernier) | 102. Light Cover (Carter Lumiere) |
| 47. Spindle Centering Scale (Index De Vernier) | 103. Cap HD, Screw (Vis Fixation) |
| 48. Set Screw (Vis De Fixation) | 104. Chuck Guard (Garde Mandrin) |
| 49. Coil Spring (Ressort Spirale) | 105. Minute Switch Bracket (Protege Interrupteur) |
| 50. Spring Cover (Couvre Ressort) | 110. Washer (Rondelle) |
| 51. Spring Seat (Siege De Ressort) | 111. Magnetic Switch Cover (Carter Interrupteur) |
| 52. Spring Seat Set Screw (Rondelle D'appui) | 112. Cap HD Screw (Vis Fixation) |
| 53. Nut (Ecrrou De Fixation) | 113. Switch Cover (Garde Interrupteur) |
| | 115. Switch Cover (Garde Interrupteur) |

Règles de sécurité

1. Pour changer la vitesse, appuyez sur l'interrupteur "OFF" Arrêt) et attendez que la perceuse soit complètement arrêtée.
2. Enlevez la clé du mandrin avant de remettre le moteur en marche.
3. Lorsque vous percez une pièce, ne la tenez jamais avec vos mains, mais fixez-la bien sur la table de travail ou servez-vous de l'écran de la perceuse à colonne afin d'éviter tout accident.
4. Gardez vos mains éloignées de la mèche de la perceuse pendant que vous percez une pièce.
5. Portez toujours des lunettes de protection lorsque la perceuse est en marche.

Assemblage

1. Perceuse à colonne-Modèle d'établi
 - a. Ouvrez la boîte et sortez le socle (no 1), la table de travail (no 21) et la colonne de rallonge ou la colonne.
 - b. Sortez le bâti de la tête (no 25) et fixez-le à la colonne (no 4).
 - c. Serrez la vis de pression (no 3) à l'aide de la clé Allen.
 - d. Fixez le levier (no 43) et le bouton du levier (no 44) et vissez-le à la tête ronde (no 37).
(Voir le graphique)
2. Perceuse à colonne-Modèle de plancher
 - a. Ouvrez la boîte, sortez le socle (no 1) et placez-le sur un plancher uni.
 - b. Sortez la colonne (no 4) ainsi que le support de table (no 6) et vissez-le au socle (no 1).
 - c. Sortez le bâti de la tête (no 25) et fixez-le à la colonne (no 4).
 - d. Serrez la vis de pression (no 3) à l'aide de la clé Allen.
(Voir le graphique)

Installation

1. Après avoir installé la perceuse à colonne, enlevez l'huile antirouille appliquée à l'usine en vous servant de kérosène. Ensuite, essuyez à l'aide d'une huile lubrifiante.
2. Installez votre perceuse à colonne sur une surface ou un plancher uni et solide.
 - a. Assurez-vous que la perceuse ne bouge pas lorsqu'elle est en marche.
 - b. Assurez-vous que le support de table se déplace librement de haut en bas.
 - c. Assurez-vous que l'arbre de la broche se déplace librement

Fonctionnement Et Essai

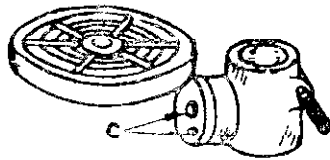
- a. Ouvrez le carter de la courroie, dégagez les leviers de pression de l'arbre à cames de gauche et de droite et poussez le levier de la courroie vers l'arrière jusqu'à ce que vous ayez obtenu la tension nécessaire.
- b. Pour déterminer la vitesse de rotation de l'arbre de la broche, consultez le tableau qui se trouve à l'intérieur du carter de la courroie; poussez le levier de la courroie afin d'ajuster cette dernière jusqu'à ce que vous obteniez la tension nécessaire et remplacez les leviers de pression de l'arbre à cames.
- c. Branchez la douille dans la prise de courant et appuyez sur l'interrupteur "ON" (Marche); l'arbre de la broche tournera alors dans le sens des aiguilles d'une montre.
- d. Si l'arbre de la broche ne tourne pas dans le sens des aiguilles d'une montre, cela signifie que l'installation électrique fait défaut; dans ce cas, arrêtez le moteur et vérifiez l'installation, après quoi l'arbre de la broche devrait tourner dans le bon sens.
- e. Lorsque vous percez une pièce, fixez-la bien sur la table de travail pour éviter de vous blesser et pour obtenir un travail de précision.
- f. Vous pouvez fixer n'importe quelle mèche au mandrin qui se trouve sous l'arbre de la broche.
- g. Branchez la douille dans la prise de courant et appuyez sur l'interrupteur "ON" (Marche), l'arbre de la broche tournera librement.
- h. Lorsque vous percez une pièce tenez le levier à droite du bâti de la tête et poussez vers le bas.

Entretien

Après avoir utilisé votre perceuse à colonne, nettoyez-la entièrement et lubrifiez toutes les pièces mobiles.

Table Adjustments:

- To adjust table up or down, loosen clamp bolt (A), then turn crank handle (B) to desired height. Retighten clamp bolt (A) before drilling operation.
- To swing table 360° loosen clamp bolt (A) then swing table to appropriate position, re-tighten clamp bolt. For long work pieces swing table 180° and use the base as your table.
- To tilt table loosen work table nuts (C) tilt to desired angle and re-tighten nuts.



Spindle Adjustments:

To stop drill at desired depth, loosen half wing bolt (E) located on feed pinion assembly, rotate fractional increments to desired depth and tighten half wing bolt. To hold a stationary depth, loosen half wing bolt (E) turn feed pinion to lowest point then rotate fractional increments to desired depth and re-tighten half wing bolt. This will hold the spindle assembly stationary at desired depth.

Drill Chuck And Arbor:

Slide small end of arbor into the chuck, place long end inside spindle hold crank table 5 inches from tip of spindle, open chuck completely pull feed pinion down, pressing the chuck against the table till arbor is secure.

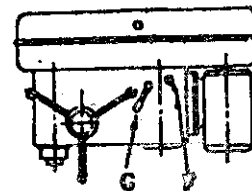
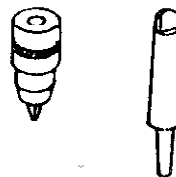
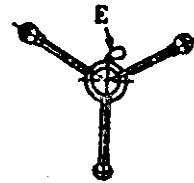
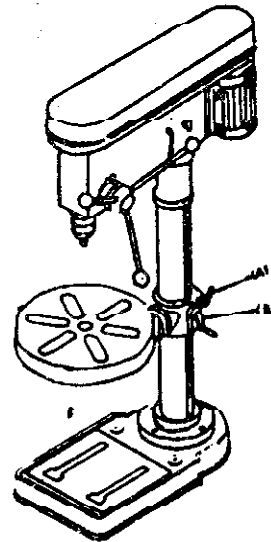
Morse Taper Drill Bits

To use Morse taper bits, remove chuck and taper. To remove taper and chuck, adjust stationary depth to 3 inches (see depth instructions) Turn spindle manually lining up spindle and quill key holes. Using key bar tap lightly until taper and chuck fall out. Loosen half wing bolt and allow spindle assembly to return to its original position.

Place tapered bit into the spindle hole, twisting and pushing upward until bit is snug. Place a block of wood on the table and crank up table until the tapered bit is firmly into the spindle.

Changing Speeds:

To change speeds, loosen slide bar lock screw (F) and pull cam handle (G) toward the front of the drill press, place pulley belts on appropriate pulley rungs (see chart inside head cover). Push cam handle toward the motor & tighten slide bar lock screw, check pulley belt for proper tension and make final adjustments.

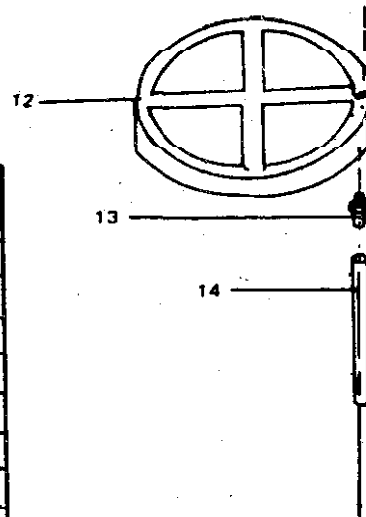
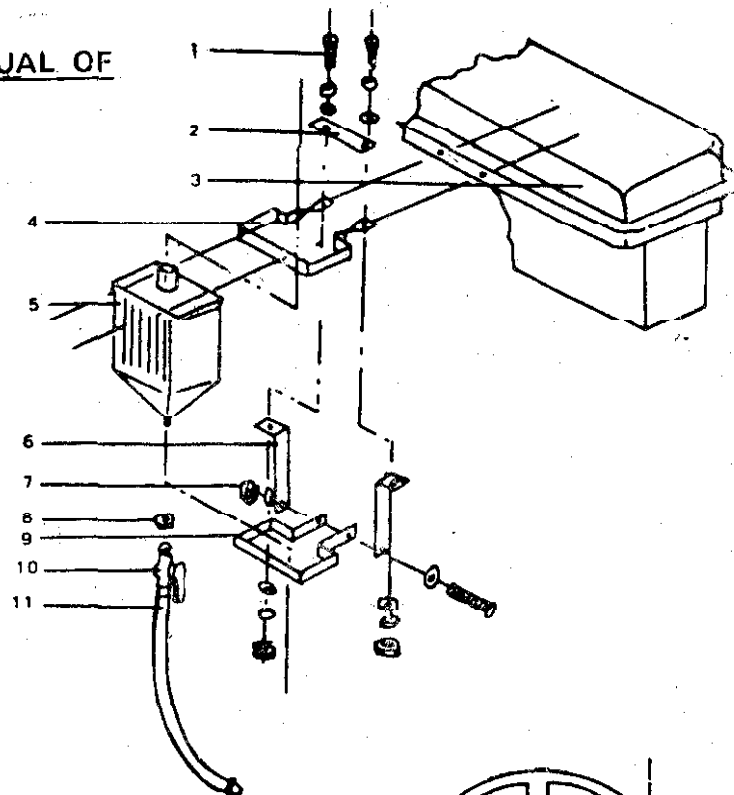


Reference List of Drill, Revolution and Various Materials

Material Rotative speed R.P.M. Drill Dia. (mm)	Cast Iron	Steel	Iron	Aluminum	Gun Metal
φ 3	2550	1600	2230	9500	8000
φ 4	1900	1200	1680	7200	6000
φ 5	1530	955	1340	5700	4800
φ 6	1270	800	1100	4800	4000
φ 7	1090	680	960	4100	3400
φ 8	960	600	840	3600	3000
φ 9	850	530	740	3200	2650
φ 10	765	480	670	2860	2400
φ 11	700	435	610	2600	2170
φ 12	640	400	560	2400	2000
φ 13	590	370	515	2200	1840
φ 14	545	340	480	2000	1700
φ 16	480	300	420	1800	1500
φ 18	425	265	370	1600	1300
φ 20	380	240	335	1400	1200
φ 22	350	220	305	1300	1100
φ 25	305	190	270	1150	950

ASSEMBLY MANUAL OF

OILER



No.	PARTS NAME
1	Fixed Bolts & Nuts Set
2	Press Plate
3	Belt Cover
4	Upper Brace
5	Oiler Tank
6	Connection Plate
7	Braced Bolt & Nut Set
8	Oil Resistant Packing
9	Lower Brace
10	On - Off Valve
11	Flexible Tube & Nozzle
12	Wet Table
13	Adaptor
14	Extension Tube

MOTOR SPECIFICATIONS AND ELECTRICAL REQUIREMENTS

MODEL	S-987	T-726	T-586	T-583	T-149
OUTPUT (HP)	1/3	3/4	3/4	1	1.5
VOLTAGE (VOLT)	110	115	115	110/220	110/220
FREQUENCY (HZ)	60	60	60	60	60
SPEED (R. P. M.)	1720	1720	1720	1720	1720
PHASE	1	1	1	1	1
POLES	4	4	4	4	4

Your drill press is for use on 115 Volt 60HZ.

Please See Grounding Instructions on page 1